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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/410,916	10/01/1999	JEROME H. LUDWIG	PIPE/04	7644

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EXAMINER

CHORBAJI, MONZER R

ART UNIT	PAPER NUMBER
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1744

DATE MAILED: 04/07/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/410,916

Applicant(s)

LUDWIG, JEROME H.

Examiner

MONZER R CHORBAJI

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 January 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 23-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 23-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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This final-office action is in response to the request for reconsideration received on 01/21/2003

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 23-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ludwig et al (U.S.P.N. 6,076,536) in view of Singh (U.S.P.N. 5,512,249).

With respect to claim 23, Ludwig discloses a method for passivating a fire sprinkler system (col.3, lines 26-32) by isolating a section of a water distribution pipe (col.5, lines 5-7) such a system intrinsically includes a plurality of heat-sensitive sprinkler heads. With regard to the step of removing the water, since Ludwig isolates a section of the system, then such a step will intrinsically involves removing some water from the isolated section. Then, Ludwig teaches of inactivating the sprinkler heads by

first removing them (col.5, lines 20-21) without indicating if such heads have been replaced with temporary fittings. Removing the sprinkler heads before or during the application of the sterilant is well within the scope of the artisan. However, when the sprinkler heads are removed, then it is an intrinsic step to cover such openings in order to clean the interior of the system. Then, Ludwig teaches of delivering sterilant heated in the range of 10 degree Celsius to 80 degree Celsius over the water in the system, which depending on the temperature of the water in the system may intrinsically include steam, for a duration to kill microorganisms in the isolated section (col.3, lines 42-48). Then, Ludwig returns the passivated section to operation (col.5, lines 15-19). However, Ludwig fails to disclose the explicit use of steam and the use of a temperature sensor. Singh teaches of sterilizing the interior surfaces of conduits by using steam (col.3, lines 61-67 and col.4, lines 1-9). Furthermore, Singh discloses the use of a temperature sensor (figure 1, 23 and col.3, lines 15-21). It would have been obvious to one having ordinary skill in the art to modify the method of Ludwig by substituting one type of sterilant (heated liquid sterilant) by another (steam) since steam is a well known sterilant in the art of sterilization.

With respect to claims 24-25, Ludwig teaches of purging the sterilant with gas and also teaches that water can be used as well (col.3, lines 53-54). However, since Ludwig is using biocides to insure the sterility of the treated section, then it is intrinsic for Ludwig method to use sterile gas as well as sterilized water.

With respect to claims 26-28, Ludwig teaches of maintaining passivity of the treated section by using water (col.4, lines 18-19 and 21-22) upon return to operation.

Also, Ludwig teaches of using air (col.3, line 54). Thus, the choice of medium to maintain the treated section upon return to operation is well within the scope of the artisan.

With respect to claim 29, as mentioned above, Ludwig teaches of removing the sprinkler heads, which intrinsically involves replacing them with fittings in order to passivate the interior surfaces of the isolated section. However, the choice of a fitting is obvious and is well within the scope of the artisan.

With respect to claim 30, Singh teaches that the desired temperature of the steam is 120.5 degree Celsius.

With respect to claim 31, even though Ludwig does not disclose of passivating sprinkler heads, however, one having ordinary skill in the art would have been motivated to clean the heads in order to insure the complete passivation of fire sprinkler systems as taught by Ludwig.

Response to Arguments

4. Applicant's arguments filed 01/21/2003 have been fully considered but they are not persuasive.

On page 2 of the response applicant argues, "Ludwig '536 does not disclose a fire sprinkler system containing a plurality of heat-sensitive sprinkler heads, nor does it teach inactivating them." Ludwig is a sprinkler system (emphasis added). It is believed doubtful that a sprinkler system would have only one sprinkler. Also, although Ludwig may not explicitly state that they deactivate the sprinkler head it is not believed credible that they would attempt to clean a system while the sprinkler heads are activated.

On page 2 of the response applicant argues, "The examiner assumes that Ludwig '536 patent involves removing some water when in fact that patent is based upon adding an aqueous cleaning solution to the section to be cleaned". It is not believed credible that Ludwig et al would attempt to force the cleaning solution into a system that is still filled with water.

On page 3 of the response applicant argues, "Ludwig '536 does not disclose heat-sensitive sprinkler heads and, obviously, the examiner's assumption that in any event sprinkler heads may be removed before or during the application, indicates a lack of understanding of applicant's method". See response with regard to a fire sprinkler system containing a plurality of heat-sensitive sprinkler heads above.

On page 3 of the response applicant argues, "The examiner contends when the sprinkler heads are removed, then it is an intrinsic step to cover such openings in order to clean the interior of the system. There is absolutely no support in applicant's Ludwig '536 for this assumption". It is believed reasonable that one of ordinary skill in the art would attach the steam supplying means of Singh in a conventional manner.

On pages 3-4 of the response applicant argues, "In contrast, Ludwig '536 teaches the use of an aqueous cleaning solution not a sterilant as the examiner contends. Further, it is impossible to make steam at such temperatures". The cleaning solution of Ludwig et al is being replaced by the steam of Singh to clean the sprinkler conduits.

On page 4 of the response applicant argues, "In other words, Singh is totally deficient when reference is made to the claimed steps of applicant's main method 23 for

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thermally sterilizing a fire sprinkler system and all claims 24-31 which depends therefrom". It is believed that applicant is in error with respect to using a sterilizing steam to replace the cleaning solution of Ludwig et al. Ludwig et al at col.1, lines 10-20 teach that it is recognized that aerobic and other bacteria are well known to impair water distribution system. Singh is analogous because it solves the common problem of killing harmful bacteria in fluid conduits.

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

6. A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **MONZER R CHORBAJI** whose telephone number is (703) 305-3605. The examiner can normally be reached on M-F 8:30-5:00.

8. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **ROBERT J WARDEN** can be reached on (703) 308-2920. The fax phone

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numbers for the organization where this application or proceeding is assigned are (703) 305-3599 for regular communications and (703) 305-7719 for After Final communications.

9. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Monzer R. Chorbaji *MRC*
Patent Examiner
AU 1744
March 31, 2003

Robert J. Warden, Sr.
ROBERT J. WARDEN, SR.
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